

courses such as biomechanics, neuroanatomy, human growth and development, manifestations of disease, examination techniques, and therapeutic procedures. Besides classroom and laboratory instruction, students receive supervised clinical experience. Individuals who have a 4-year degree in another field and want to be a physical therapist, should enroll in a master's or a doctoral level physical therapist educational program.

Competition for entrance into physical therapist educational programs is very intense, so interested students should attain superior grades in high school and college, especially in science courses. Courses useful when applying to physical therapist educational programs include anatomy, biology, chemistry, social science, mathematics, and physics. Before granting admission, many professional education programs require experience as a volunteer in a physical therapy department of a hospital or clinic.

Physical therapists should have strong interpersonal skills to successfully educate patients about their physical therapy treatments. They should also be compassionate and possess a desire to help patients. Similar traits are also needed to interact with the patient's family.

Physical therapists are expected to continue professional development by participating in continuing education courses and workshops. A number of States require continuing education to maintain licensure.

Job Outlook

Employment of physical therapists is expected to grow faster than the average for all occupations through 2008. However, Federal legislation imposing limits on reimbursement for therapy services may continue to adversely affect the job market for physical therapists in the near term. Because of the effects of these provisions, the majority of expected employment growth for physical therapists will occur in the second half of the projection period.

Over the long run, the demand for physical therapists should continue to rise as a result of growth in the number of individuals with disabilities or limited function requiring therapy services. The rapidly growing elderly population is particularly vulnerable to chronic and debilitating conditions that require therapeutic services. Also, the baby-boom generation is entering the prime age for heart attacks and strokes, increasing the demand for cardiac and physical rehabilitation. More young people will need physical therapy as technological advances save the lives of a larger proportion of newborns with severe birth defects.

Future medical developments should also permit a higher percentage of trauma victims to survive, creating additional demand for rehabilitative care. Growth may also result from advances in medical technology which permit treatment of more disabling conditions.

Widespread interest in health promotion should also increase demand for physical therapy services. A growing number of employers are using physical therapists to evaluate worksites, develop exercise programs, and teach safe work habits to employees in the hope of reducing injuries.

Earnings

Median annual earnings of physical therapists were \$56,600 in 1998. The middle 50 percent earned between \$44,460 and \$77,810 a year. The lowest 10 percent earned less than \$35,700 and the highest 10 percent earned more than \$90,870 a year. Median annual earnings in the industries employing the largest number of physical therapists in 1997 were as follows:

Home health care services	\$65,600
Nursing and personal care facilities	60,400
Offices of other health care practitioners	56,600
Offices and clinics of medical doctors	55,100
Hospitals	50,100

Related Occupations

Physical therapists rehabilitate persons with physical disabilities. Others who work in the rehabilitation field include occupational therapists, speech pathologists, audiologists, orthotists, prosthetists, and respiratory therapists.

Sources of Additional Information

Additional information on a career as a physical therapist and a list of accredited educational programs in physical therapy are available from:

☛ American Physical Therapy Association, 1111 North Fairfax St., Alexandria, VA 22314-1488. Internet: <http://www.apta.org>

Physician Assistants

(O*NET 32511)

Significant Points

- The typical physician assistant program lasts about 2 years and usually requires at least 2 years of college and some health care experience for admission.
- Earnings are high and job opportunities should be good.

Nature of the Work

Physician assistants (PAs) provide health care services with supervision by physicians. They should not be confused with medical assistants, who perform routine clinical and clerical tasks. (Medical assistants are discussed elsewhere in the *Handbook*.) PAs are formally trained to provide diagnostic, therapeutic, and preventive health care services, as delegated by a physician. Working as members of the health care team, they take medical histories, examine patients, order and interpret laboratory tests and x rays, and make diagnoses. They also treat minor injuries by suturing, splinting, and casting. PAs record progress notes, instruct and counsel patients, and order or carry out therapy. In 46 States and the District of Columbia, physician assistants may prescribe medications. PAs may also have managerial duties. Some order medical and laboratory supplies and equipment and may supervise technicians and assistants.

Physician assistants always work with the supervision of a physician. However, PAs may provide care in rural or inner city clinics



Physician assistants are projected to be among the fastest growing occupations.

where a physician is present for only 1 or 2 days each week, conferring with the supervising physician and other medical professionals as needed or required by law. PAs may also make house calls or go to hospitals and nursing homes to check on patients and report back to the physician.

The duties of physician assistants are determined by the supervising physician and by State law. Aspiring PAs should investigate the laws and regulations in the States where they wish to practice.

Many PAs work in primary care areas such as general internal medicine, pediatrics, and family medicine. Others work in specialty areas, such as general and thoracic surgery, emergency medicine, orthopedics, and geriatrics. PAs specializing in surgery provide pre- and post-operative care and may work as first or second assistants during major surgery.

Working Conditions

Although PAs usually work in a comfortable, well-lighted environment, those in surgery often stand for long periods, and others do considerable walking. Schedules vary according to practice setting and often depend on the hours of the supervising physician. The workweek of PAs in physicians' offices may include weekends, night hours, or early morning hospital rounds to visit patients. They may also be on-call. PAs in clinics usually work a 40-hour week.

Employment

Physician assistants held about 66,000 jobs in 1998. The number of jobs is greater than the number of practicing PAs because some hold two or more jobs. For example, some PAs work with a supervising physician, but also work in another practice, clinic, or hospital. According to the American Academy of Physician Assistants, there were about 34,200 certified PA's in clinical practice, as of January 1999.

Sixty-seven percent of jobs for PA's were in the offices and clinics of physicians, dentists, or other health practitioners. About 21 percent were in hospitals. The rest were mostly in public health clinics, nursing homes, prisons, home health care agencies, and the Department of Veterans Affairs.

According to the American Academy of Physician Assistants, about one-third of all PAs provide health care to communities having fewer than 50,000 residents where physicians may be in limited supply.

Training, Other Qualifications, and Advancement

All States require that new PAs complete an accredited, formal education program. As of July 1999, there were 116 accredited or provisionally accredited educational programs for physician assistants; 64 of these programs offered a bachelor's degree or a degree option. The rest offered either a certificate, an associate degree, or a master's degree. Most PA graduates have at least a bachelor's degree.

Admission requirements vary, but many programs require 2 years of college and some work experience in the health care field. Students should take courses in biology, English, chemistry, math, psychology, and social sciences. More than half of all applicants hold a bachelor's or master's degree. Many applicants are former emergency medical technicians, other allied health professionals, or nurses.

PA programs usually last 2 years. Most programs are in schools of allied health, academic health centers, medical schools, or 4-year colleges; a few are in community colleges, the military, or hospitals. Many accredited PA programs have clinical teaching affiliations with medical schools.

PA education includes classroom instruction in biochemistry, nutrition, human anatomy, physiology, microbiology, clinical pharmacology, clinical medicine, geriatric and home health care, disease prevention, and medical ethics. Students obtain supervised

clinical training in several areas, including primary care medicine, inpatient medicine, surgery, obstetrics and gynecology, geriatrics, emergency medicine, psychiatry, and pediatrics. Sometimes, PA students serve one or more of these "rotations" under the supervision of a physician who is seeking to hire a PA. These rotations often lead to permanent employment.

As of 1999, 49 States and the District of Columbia had legislation governing the qualifications or practice of physician assistants; Mississippi did not. All jurisdictions required physician assistants to pass the Physician Assistants National Certifying Examination, administered by the National Commission on Certification of Physician Assistants (NCCPA)—open openly to graduates of accredited PA educational programs. Only those successfully completing the examination may use the credential "Physician Assistant-Certified (PA-C)." In order to remain certified, PAs must complete 100 hours of continuing medical education every 2 years. Every 6 years, they must pass a recertification examination or complete an alternate program combining learning experiences and a take-home examination.

Some PA's pursue additional education in order to practice in a specialty area such as surgery, neonatology, or emergency medicine. PA postgraduate residency training programs are available in areas such as internal medicine, rural primary care, emergency medicine, surgery, pediatrics, neonatology, and occupational medicine. Candidates must be graduates of an accredited program and be certified by the NCCPA.

Physician assistants need leadership skills, self-confidence, and emotional stability. They must be willing to continue studying throughout their career to keep up with medical advances.

As they attain greater clinical knowledge and experience, PAs can advance to added responsibilities and higher earnings. However, by the very nature of the profession, individual PAs are always supervised by physicians.

Job Outlook

Employment opportunities are expected to be good for physician assistants, particularly in areas or settings that have difficulty attracting physicians, such as rural and inner city clinics. Employment of PAs is expected to grow much faster than the average for all occupations through the year 2008 due to anticipated expansion of the health services industry and an emphasis on cost containment.

Physicians and institutions are expected to employ more PAs to provide primary care and assist with medical and surgical procedures because PAs are cost-effective and productive members of the health care team. Physician assistants can relieve physicians of routine duties and procedures. Telemedicine—using technology to facilitate interactive consultations between physicians and physician assistants—will also expand the use of physician assistants.

Besides the traditional office-based setting, PAs should find a growing number of jobs in institutional settings such as hospitals, academic medical centers, public clinics, and prisons. Additional PAs may be needed to augment medical staffing in inpatient teaching hospital settings if the number of physician residents is reduced. In addition, State-imposed legal limitations on the numbers of hours worked by physician residents are increasingly common and encourage hospitals to use PAs to supply some physician resident services. Opportunities will be best in States that allow PAs a wider scope of practice, such as the ability to prescribe medication.

Earnings

Median annual earnings of physician assistants were \$47,090 in 1998. The middle 50 percent earned between \$25,110 and \$71,450 a year. The lowest 10 percent earned less than \$18,600 and the highest 10 percent earned more than \$86,760 a year.

Median annual earnings of physician assistants in 1997 were \$41,100 in offices and clinics of medical doctors and \$57,100 in hospitals.

According to the American Academy of Physician Assistants, median income for physician assistants in full-time clinical practice in 1998 was about \$62,200; median income for first-year graduates was about \$54,000. Income varies by specialty, practice setting, geographical location, and years of experience.

Related Occupations

Other health workers who provide direct patient care that requires a similar level of skill and training include nurse practitioners, physical therapists, occupational therapists, clinical psychologists, nurse anesthetists, nurse midwives, clinical nurse specialists, speech-language pathologists, and audiologists.

Sources of Additional Information

For information on a career as a physician assistant, contact:

☛ American Academy of Physician Assistants Information Center, 950 North Washington St., Alexandria, VA 22314-1552.

Internet: <http://www.aapa.org>

For a list of accredited programs and a catalog of individual PA training programs, contact:

☛ Association of Physician Assistant Programs, 950 North Washington St., Alexandria, VA 22314-1552. Internet: <http://www.apap.org>

For eligibility requirements and a description of the Physician Assistant National Certifying Examination, write to:

☛ National Commission on Certification of Physician Assistants, Inc., 157 Technology Pkwy., Suite 800, Norcross, GA 30092-2913.

Internet: <http://www.nccpa.net>



Recreational therapists help people with disabling conditions live fuller lives through activities.

In acute health care settings, such as hospitals and rehabilitation centers, recreational therapists treat and rehabilitate individuals with specific health conditions, usually in conjunction or collaboration with physicians, nurses, psychologists, social workers, and physical and occupational therapists. In long-term care facilities and residential facilities, recreational therapists use leisure activities—especially structured group programs—to improve and maintain general health and well-being. They may also treat clients and provide interventions to prevent further medical problems and secondary complications related to illness and disabilities.

Recreational therapists assess clients, based on information from standardized assessments, observations, medical records, medical staff, family, and clients themselves. They then develop and carry out therapeutic interventions consistent with client needs and interests. For example, clients isolated from others, or with limited social skills, may be encouraged to play games with others, or right-handed persons with right-side paralysis may be instructed to adapt to using their non-affected left side to throw a ball or swing a racket. Recreational therapists may instruct patients in relaxation techniques to reduce stress and tension, stretching and limbering exercises, proper body mechanics for participation in recreation activities, pacing and energy conservation techniques, and individual as well as team activities. Additionally, therapists observe and document patients' participation, reactions, and progress.

Community based therapeutic recreation specialists may work in park and recreation departments, special education programs for school districts, or programs for older adults and people with disabilities. Included in the latter group are programs and facilities such as assisted living, adult day service centers and substance abuse rehabilitation centers. In these programs, therapists use interventions to develop specific skills while providing opportunities for exercise, mental stimulation, creativity, and fun. Although most therapists are employed in other areas, those who work in schools help counselors, teachers, and parents address the special needs of students—most importantly, easing the transition into adult life for disabled students.

Working Conditions

Recreational therapists provide services in special activity rooms but also plan activities and prepare documentation in offices. When working with clients during community integration programs, they may travel locally to instruct clients on the accessibility of public transportation and other public areas, such as parks, playgrounds, swimming pools, restaurants, and theaters.

Recreational Therapists

(O*NET 32317)

Significant Points

- Employment of recreational therapists is expected to increase, due to expansion in long-term care, physical and psychiatric rehabilitation, and services for people with disabilities.
- Opportunities should generally be best for persons with a bachelor's degree in therapeutic recreation or in recreation with a concentration in therapeutic recreation.

Nature of the Work

Recreational therapists, also referred to as therapeutic recreation specialists, provide treatment services and recreation activities to individuals with disabilities, illnesses, or other disabling conditions. These therapists use a variety of techniques to treat or maintain the physical, mental, and emotional well-being of clients. Treatments may include the use of arts and crafts, animals, sports, games, dance and movement, drama, music, and community outings. Therapists help individuals reduce depression, stress, and anxiety. They also help individuals recover basic motor functioning and reasoning abilities, build confidence, and socialize effectively to enable greater independence, as well as to reduce or eliminate the effects of illness or disability. Additionally, they help integrate people with disabilities into the community, by helping them use community resources and recreational activities. Recreational therapists should not be confused with recreation workers, who organize recreational activities primarily for enjoyment. (Recreation workers are discussed elsewhere in the *Handbook*.)